

## **Section I**

### **National Weather Service Fire Weather Policy**

The National Weather Service (NWS) fire weather program is a very customer-oriented service, marked by a high degree of cooperation between the NWS and the customers who are the various wildlands management agencies (user agencies). As there is wide variance among individual agencies in the degree of sophistication in applying weather factors to their operations, the type of weather services required by user agencies varies considerably within the United States.

Consequently, the fire weather programs of NWS offices are not suited to uniform descriptions.

The term fire weather is not limited to wildfire support but shall be interpreted to include all forest and rangeland management weather support services.

The fire weather service is the operational program that provides forecast, warning, and consultation services for the prevention, suppression, and management of forest and rangeland fires, and for a host of land management activities, such as planting and reseeding operations, nursery and plantation operations, insect and disease control, disposal of logging slash and forest residue, environmental protection including meteorological guidance for smoke management, and forestry engineering projects for watershed and recreational facilities.

The major objective of the fire weather service is to provide a service which will meet the meteorological requirements of Federal and state wildland management agencies in the protection and enhancement of the Nation's forest and rangelands.

## **Section II**

### **NWS Sterling (LWX) Fire Weather Policy & Philosophy**

The National Weather Service Forecast Office (WFO) in Sterling, Virginia will provide fire weather support in accordance with the National Weather Service Fire Weather Policy. This support will consist of daily fire weather forecasts during the fire season. Spot (non-routine) forecasts, fire weather watches, and red flag warnings will be provided on an as-needed basis at any time throughout the year.

Unless otherwise specified, forecasts are made to reflect the worst probable weather in terms of fire management, within the forecast zone. For instance, the daytime forecast will attempt to depict the hottest, driest, and windiest weather that is likely to be experienced in the wildland environment of a zone from 7AM to 7PM Eastern Standard Time. On occasion, this may be different from the general public forecast which emphasizes prevailing conditions for the area, and is often skewed towards the more populated areas in a county.

Though the routine forecast attempts to depict a worst case fire weather scenario for a given period, it in no way reflects all the local variations in weather that can have an adverse effect on fire behavior within a zone. Fire control officers should be familiar with typical weather variations across their district or forest such as those associated with land versus sea interaction, changes in elevation, and vegetation. The impact of seabreezes or mountain/valley winds should also be recognized. A spot forecast should be requested whenever local effects are suspected of creating difficult fire management conditions.



Over mountainous terrain, weather conditions vary considerably from site to site within a county. Routine forecasts for mountainous counties will be aimed at lower elevations where the most operations are likely to occur. As a general rule, high elevations sites will have lower temperatures on the order of 5 degrees per 1,000 feet in elevation. Fire officers are urged to obtain spot forecasts whenever terrain causes significant departures from the routine forecast.

### Section III NWS Sterling Forecast Area

The WFO Sterling county warning area (CWA) consists of:

- A) All of Maryland west of the Chesapeake Bay, except Garrett county
- B) North and Northwest Virginia
- C) The eastern panhandle of West Virginia
- D) The District of Columbia

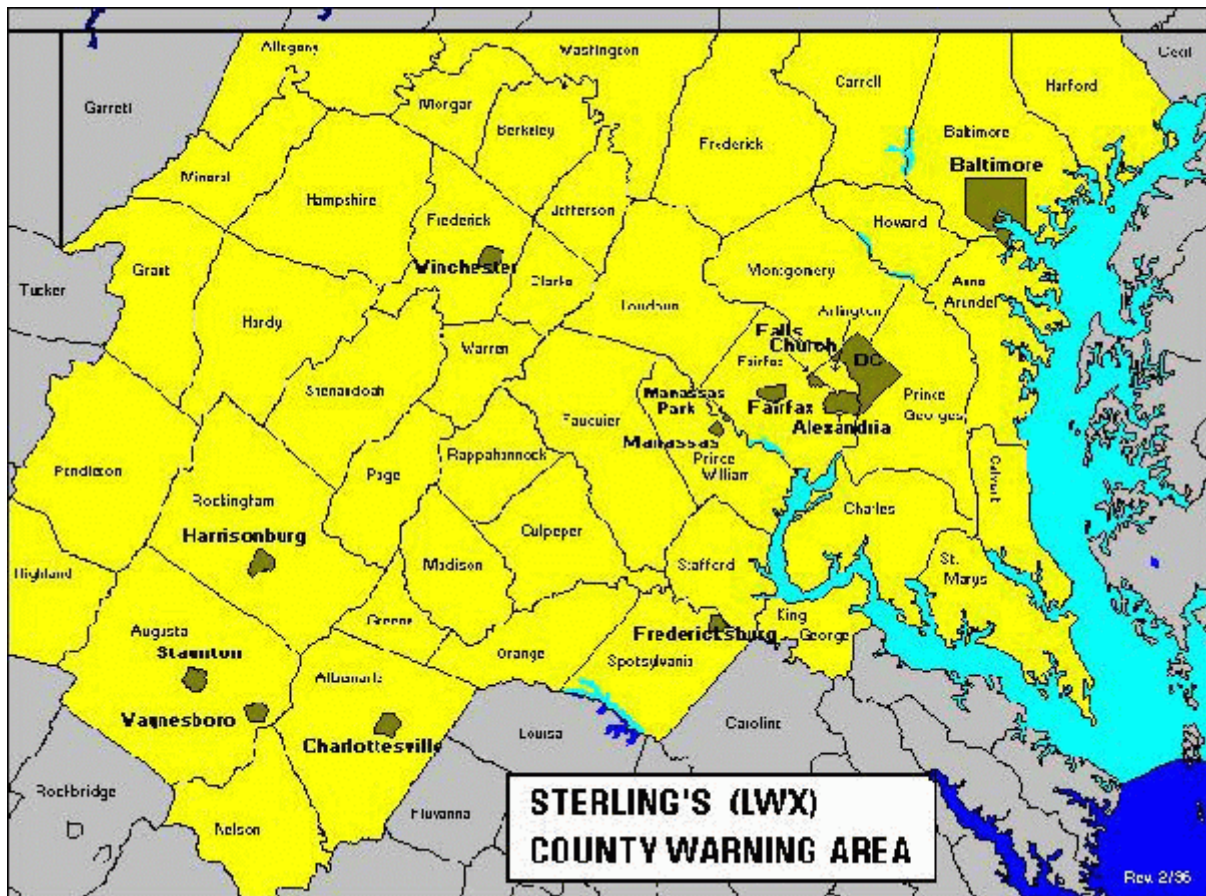


Figure 1

*County Warning Area (CWA) of NWS Sterling*



**Table 1**

*The zone codes for all counties and independent cities in the NWS Sterling Forecast Area*

<b><u>District of Columbia</u></b> DCZ001		<b><u>Virginia</u></b>	
<b><u>Maryland</u></b>		Albemarle	VAZ037
Allegany	MDZ002	Alexandria	VAZ054
Anne Arundel	MDZ014	Arlington	VAZ054
Northern Baltimore	MDZ006	Augusta	VAZ025
Southern Baltimore	MDZ011	Charlottesville	VAZ037
Baltimore City	MDZ011	Clarke	VAZ031
Calvert	MDZ018	Culpeper	VAZ051
Carroll	MDZ005	Fairfax	VAZ053
Charles	MDZ016	Fairfax City	VAZ053
Frederick	MDZ004	Falls Church	VAZ054
Harford	MDZ007	Fauquier	VAZ041
Howard	MDZ010	Frederick	VAZ028
Montgomery	MDZ009	Fredericksburg	VAZ056
Prince Georges	MDZ013	Greene	VAZ038
St. Mary's	MDZ017	Harrisonburg	VAZ026
Washington	MDZ003	Highland	VAZ021
<b><u>West Virginia</u></b>		King George	VAZ057
Berkeley	WVZ052	Loudoun	VAZ042
Grant	WVZ048	Madison	VAZ039
Hampshire	WVZ048	Manassas	VAZ052
Hardy	WVZ055	Manassas Park	VAZ052
Jefferson	WVZ053	Nelson	VAZ036
Mineral	WVZ049	Orange	VAZ050
Morgan	WVZ051	Page	VAZ029
Pendleton	WVZ054	Prince William	VAZ052
		Rappahannock	VAZ040
		Rockingham	VAZ026
		Shenandoah	VAZ027
		Spotsylvania	VAZ056
		Stafford	VAZ055



Staunton	VAZ025	Winchester	VAZ028
Waynesboro	VAZ025		
Warren	VAZ030		

## Section IV County Groupings within the Forecast

The NWS forecast is broken down into groups of counties within the Sterling forecast area that are expected to have similar weather conditions over the given forecast period. These zones will generally change from forecast to forecast as the contributing weather situation evolves. This concept is called flexible zone forecasting and gives a more realistic and accurate description of a county's weather conditions for that forecast period. Therefore, a given county may not always be in the same zone grouping in every forecast.

### ***An example:***

Shenandoah county's forecast may be the same as Page county's forecast. In that case both Shenandoah and Page would be in the same zone grouping. In a later forecast, Shenandoah county's forecast might be different than Page, but equal to Frederick county. In that case Shenandoah would be grouped with Frederick, and Page would be in a separate grouping.

## Section V Description of Area

The Sterling forecast area is located in the Mid-Atlantic portion of the continental United States. The topography varies from the coastal plain that covers the southeastern third of the forecast area, to the piedmont and foothills of central Maryland and north central Virginia, to the Appalachian mountains in the northwest third of the forecast area. Hardwood forests provide the majority of the vegetative coverage in the higher elevations.

## Section VI The Fire Season

The "fire season" runs much of the year, but there are two distinct maxima of increased activity. These two periods are during the spring (*mid February thru mid May*), and the fall (*mid October thru mid December*). WFO Sterling will issue a daily fire weather forecast WBCFWFWBC along with as-needed Red Flag Warnings and Fire Weather Watches from February 15 thru December 15. Spot Fire Weather Forecasts can be requested by Federal agencies at any time during the year. These forecasts must be for the Sterling forecast area.



## Section VII

### The Daily Fire Weather Forecast Product (WBCFWFWBC)

The daily fire weather forecast product will be issued by the Sterling National Weather Service forecast office for all of the counties in the forecast area. The forecast will be issued between 4:00 and 6:00 AM each day within the fire season.

The fire weather forecast will cover specific conditions for a 36 hour period and will consist of three 12 hour periods (today, tonight, and the next day). On critical weather days a headline may be included at the top of the product. The headline will be mandatory for Red Flag Warnings or Fire Weather Watches. A brief synopsis of the weather as it pertains to the forecast area will precede the forecasts. Following the three period forecast, the product will also contain an extended forecast issued by WFO Sterling, and the NWS long range forecast for the area.

#### **A)     *Data Included in the Short Term Section of the Daily Fire Weather Product***

The forecast area will be broken down into several groups. Each grouping of counties will have the 36 hour forecast period broken down into three 12 hour periods (today, tonight, and the next day). The data included will be:

- 1) Cloud Amount
- 2) Precipitation Type
- 3) Chance of Precipitation
- 4) Daytime Max Temperatures and Nighttime Minimum Temperatures (*deg F*)  
*also with the temperature change from 24 hours ago.*
- 5) Daytime Minimum Relative Humidity and Nighttime Max (*in percent*)  
*also with the humidity change from 24 hours ago.*
- 6) Surface Wind Direction & Speed (*using an 8 point compass in MPH*)  
*broken down to morning and afternoon during the daytime periods.*
- 7) Precipitation Amount (*in inches*)
- 8) Precipitation Duration (*in hours*)
- 9) Precipitation Begin and End Times
- 10) Daytime Mixing Height (*in feet*)
- 11) Daytime Transport Wind Direction
- 12) Daytime Transport Wind Speed (*in miles per hour*)
- 13) Daytime Ventilation Index (*transport wind speed x mixing height*)
- 14) Lightning Activity Level
- 15) Daytime Haines Index for potential fire growth





- **Surface wind:** This is a 2 minute average of the 10 meter wind (33 feet). Direction is given using an eight point compass (i.e. N, NE, E, SE, S, SW, W, NW). Surface wind speed is in miles per hour. During the daytime periods, wind is broken down into morning and afternoon periods.
- **Precipitation Duration:** The total number of hours of precipitation expected during the 12 hour period.
- **Precipitation Begin and End Times:** These are the start and end times of any expected precipitation. It does not necessarily mean that precipitation will occur continuously between these times.
- **Humidities:** The humidity values given are the relative humidity extremes expected. In the two daytime periods, they are the minimum relative humidity forecast. At night, they are the maximum value forecast.
- **Haines Index:** This index refers to the stability and dryness of the lower atmosphere. It was intended to measure the potential for fire growth with existing fires. It is calculated adding two factors. The first compares the atmospheric temperature at 950 Mb versus 850 Mb. The second figures the humidity of the atmosphere at 850 Mb. This is a daytime index. A Haines Index of:
  - 2 or 3 Indicates a very low potential for fire growth
  - 4 Indicates a low potential
  - 5 Indicates a moderate potential
  - 6 Indicates a high potential for large fire growth
  - \*\*\* A value of 5 or 6 indicates that prescribed burns may get out of control.
- **Lightning Activity Level:** The amount of lightning strikes anticipated.
  - 1 No lightning
  - 2 No lightning or a few scattered strikes
  - 3 Scattered strikes
  - 4 More numerous strikes
  - 5 Frequent lightning
- **Mixing Height:** This is defined as the atmospheric limit above which vigorous mixing does not take place. The mixing height gives the potential of the atmosphere to disperse smoke. In general, with a forecast mixing height of 1600 feet (500 meters) or



less, the fire control officer should consider moving a scheduled prescribed burn to a different day. Upper air sounding data is available between 8 and 9 AM Eastern Standard Time. This data can sometimes provide a more accurate mixing height than what is issued earlier in the morning on the daily fire weather forecast. Since vigorous mixing typically occurs during the daylight hours, this value is given during the daytime periods. At night, the value falls to the inversion height.

- **Transport Wind:** Defined as the average wind vector from the surface to the mixing height (more plainly, the direction and speed of the wind that will carry the smoke). Direction of the transport wind (where the wind is blowing from) and speed will be given. This is now given in miles per hour. To convert to meters per second, multiply it by 0.45 (roughly divide it in half). Since the mixing height used to compute this is a daytime index, this is also given for day periods only.
- **Ventilation Rate:** This is a combination of the Transport Wind (mph) and the Mixing Height (ft). It is computed by multiplying the two values. It measures volume of smoke moved by dispersion. Since the mixing height used to compute this is a daytime index, ventilation rate is also given for the daytime periods only.

## ***B) The Extended Forecast***

At the end of the daily fire weather forecast, the extended forecasts are given. For the mid range, these will include cloud cover, precipitation, and temperatures. For the long range, this will include deviations from normal for temperatures and precipitation.

## **Section VIII**

### **The Digital Zone Forecast Matrices**

*(WBCAFMWBC)*

In addition to the daily fire weather forecast, the Digital Zone Forecast Matrices (or AFM) are issued with each public forecast update with more time specific information. The AFM has the following helpful data broken down into **three** hour time periods:

- Temperature
- Dewpoint
- Relative Humidity
- Surface Wind Speed and Direction
- Cloud Cover

It also contains 12 hour forecasts for precip amount (or QPF - Quantitative Precipitation Forecast).

The AFM has a separate matrix for each county grouping. These groups are identified by county names



as well as UGC codes at the top of each matrix. The matrices use a standard format and are well suited for ingest into local computer programs.

The AFM product (and instructions on how to interpret it), as well as all of the National Weather Service (Sterling WFO) forecast products, observations, climatology, and other relevant data can be found at our web page:

<http://www.erh.noaa.gov/lwx>

## **Section IX**

### **Spot (Non-Routine) Forecasts**

The spot forecast is a site-specific, localized weather forecast available for wildfire support. This forecast will include wind, temperature, and humidity forecasts, as well as any local topographic or special effects that may be present. It will normally cover a 12 hour period and will be issued upon request by the agency overseeing the wildfire. Spot forecasts will not be issued for planned or prescribed burns by non-federal agencies. Requests can be faxed or phoned in. If faxing a request, the user must also call to make sure the fax was received. After a reasonable time for creation, the Spot Forecast will then be faxed back to the user agency.

#### **A) *Requirements for Issuance of a Spot Forecast***

Completion of the web based form located on our internet web site (<http://www.erh.noaa.gov/lwx/fire.htm>), or form WS Form D-1 (which needs to be faxed on completion) by the requesting agency. This will provide current weather information for the site-specific location. The requesting agency will provide the following information:

- Agency name
- Location (*Latitude and Longitude*) and Size (*acreage*) of the fire
- Elevation, Topography, and Geography
- A recent weather observation
  - In order to provide a more accurate forecast, weather observations from the fire site need to be given to the forecaster. At a minimum, these observations need to include a dry bulb temperature, a wet bulb temperature or relative humidity, surface wind speed and direction using a hand held anemometer unless otherwise indicated.
- Any additional information that would help the forecaster

#### **B) *Spot Forecast Product***

The duty forecaster will provide the following information in the spot forecast product:

- Time period of the forecast (*usually 12 hours*)
- A brief synopsis
- Relative humidity forecast (*Minimum for the day, Maximum for the night*)
- 20 foot wind forecast (*direction and speed*)





- Probability of precipitation
- Mesoscale features affecting the site (*i.e. thunderstorms, bay breeze*)
- Any other weather phenomenon deemed important by the duty forecaster including any watches, warnings, or advisories in effect for the area.

## Section X

### Fire Weather Watches and Red Flag Warnings (WBCRFWWBC)

Three specific conditions must be met (or expected to be met) concurrently for a Red Flag Warning (or Fire Weather Watch) to be issued. These conditions are as follows:

- ✓ Ten hour fuels must be below 8%
- ✓ Sustained surface winds greater than 25 MPH
- ✓ Relative Humidity below 30%

NWS Sterling will access fuel moisture information by a phone call to VICC (Virginia Interagency Coordination Center) or the Maryland Department of Forestry.

If, after being notified of low fuel moisture, NWS Sterling determines that the relative humidity/wind criteria may (or will) also be met, NWS Sterling will consult with the affected coordination centers and decide whether a FIRE WEATHER WATCH or RED FLAG WARNING is needed.

If a FIRE WEATHER WATCH or RED FLAG WARNING is issued, NWS Sterling will include a HEADLINE in the daily fire weather forecast as well as any spot forecasts that are issued during the event. Also a separate product called an RFW (WBCRFWWBC / WWUS81 KLWX) will be issued. This separate product will more specifically state the risks and what weather conditions are producing them.

A **“FIRE WEATHER WATCH”** is issued to alert the users to the possible development of a Red Flag event (as defined by the 3 criteria above) in the near future. This is usually, though not always, issued for the next day (Day 2).

A **“RED FLAG WARNING”** is issued to warn the users of an impending or on-going Red Flag event (as defined by the 3 criteria above). A Red Flag Warning will be issued immediately when Red Flag conditions are occurring or for impending Red Flag conditions when there is a high degree of confidence that conditions will develop within the next few hours.



## **Section XI**

### **NOAA Weather Radio**

NOAA Weather Radio continuously broadcasts weather information on a special broadcast band. Maps of the areas covered by NWS Sterling's NOAA Weather Radio transmitters are included.

Following are NWS Sterling's NOAA Weather Radios and their assigned frequencies:

	<u>Location</u>	<u>Station</u>	<u>Frequency</u>
1)	Manassas, VA	KHB-36	162.550 MHz
2)	Pikesville, MD	KEC-83	162.400 MHz
3)	Hagerstown, MD	WXM-42	162.475 MHz
4)	Moorefield, WV	WXM-73	162.400 MHz
5)	Frostburg, MD	WXM-43	162.425 MHz
6)	Charlottesville, VA	KZZ-28	162.450 MHz

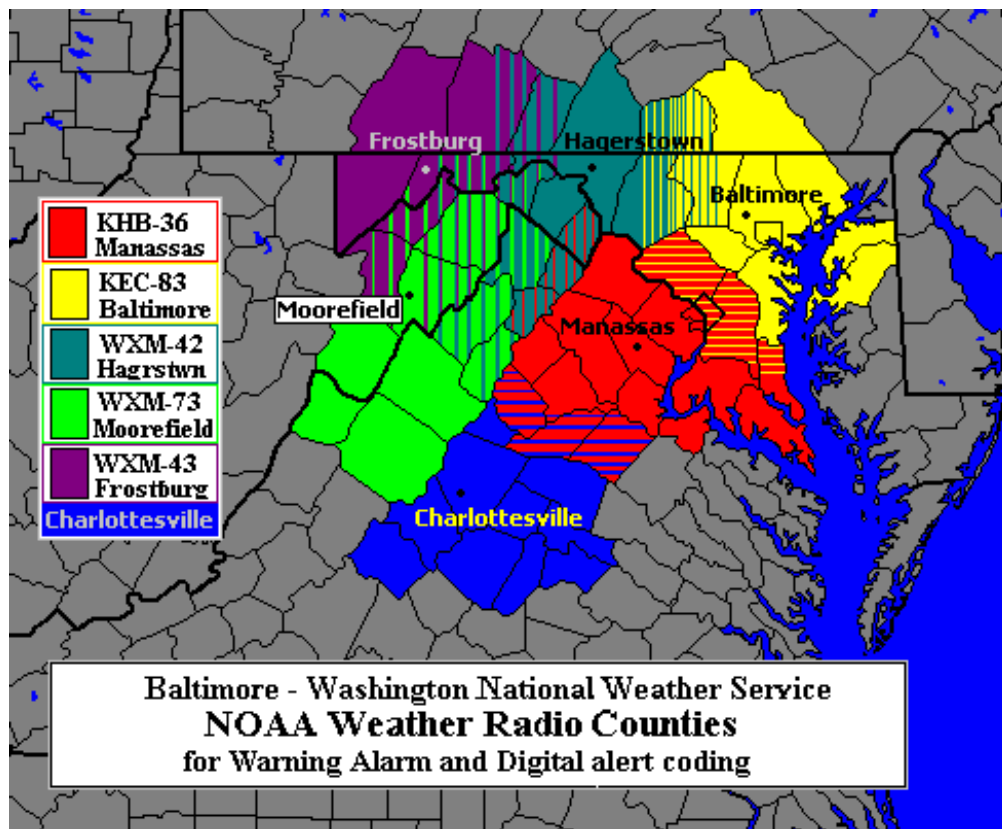
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**Figure 2**



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Specializ meteorological services are those requiring a meteorologist to be away from the Forecast Office and/or, in non-emergency situations, to be on overtime. Special services include the Air Transportable Mobile Unit (ATMU) and other on-site meteorological services, weather observer training, weather station



visitations requested by user agencies, and participation in user agency training activities.

User agencies pay overtime, travel and per diem cost for specialized services. Cost to be recovered from the user are calculated on the basis of expense reports submitted to the NWS Eastern Region Headquarters in Bohemia, NY by the servicing Forecast Office. Billing of user agencies are handled by appropriate NWS administrative divisions based on these expense reports. Bills include a statement of services rendered, and dates and location of services provided.

Costs for specialized services pertaining to interagency training (i.e. ATMU) should be handled by cooperative agreement among the agencies involved with the specific training objective.

#### **A) *Air Transportable Mobile Unit (ATMU)***

Modular ATMUs, are stored and dispatched from the USDA Forest Fire Cache in London, KY on a seasonal basis and from other state and federal fire caches around the country as needed. These units are available upon request for duty at an incident fire, critical prescribed burn, or other weather sensitive incident.

Each ATMU consists of seven modules. The unit comes equipped with an automatic weather station, theodolite with tripod and calculator for computing winds aloft, belt weather observing equipment, satellite receiving gear and laptop computer for display of weather graphics, nozzle and regulator for helium tank, plus office supplies and miscellaneous expendables.

The unit must be operated by a certified Incident Meteorologist (IMET) working closely with the Fire Behavior Analyst (FBA) in setting up the unit at the site.

Requests should be made through the US Forest Service Dispatch. Individuals making the request should provide the following information: (1) the name of the fire or incident, (2) location of the fire or incident, (3) directions to the place where the meteorologist is to report, and (4) name of the Incident Commander and the FBA.

The requesting agency is responsible for coordinating transportation of the ATMU and IMET to and from the incident. If commercial air is to be used for transporting the ATMU, arrangements should be made with the caching agency to repack or have hand carried module #5, which contains the automatic weather station recorder.

The requesting agency is also responsible for any storage of the unit while in transit, shelter of the meteorologist and unit at the site, provision of priority telephone access during certain short periods each day, 120V AC electrical power, and provision of a helium tank. The sheltered work area must be protected from heavy dust, and heated or cooled sufficiently to allow equipment and meteorologist to operate effectively. It must be free of standing water or condensation, approximately 50 square feet in size with a table and chair.



Upon arrival at the incident, the IMET will:

- 1) Based on information from initial contact with the Forecast Office, brief the Fire Behavior Analyst and Incident Commander on the current and expected weather as it affects the fire.
- 2) Establish a schedule with the Incident Commander and FBA for written forecasts and formal briefings.
- 3) Request a briefing of the fire situation and potential behavior problems from the FBA. As time and resources permit, incident management should arrange for an areal inspection trip for the meteorologist, and be sure current fireline maps are provided to the meteorologist. If possible, the meteorologist should be assigned a radio with fireline frequency.
- 4) In cooperation with the FBA, the meteorologist will arrange for a schedule of observations from key points around the fire and from nearby lookouts and fire danger rating stations. On large incident fires, some personnel (at least two) should be permanently assigned to this duty. On smaller fires this information is provided by the Division Supervisors equipped with belt weather kits.

## ***B) Fire Weather Training***

NWS Fire Weather Meteorologists are available to assist in fire control agencies with training at fire behavior school and other weather related courses. Requests for assistance should be forwarded to the Fire Weather Focal Point at NWS Sterling.

## ***C) Other Specialized Services***

Other services include weather station visitations requested by user agencies, weather observer training and course development work. These activities would typically be conducted at user agency facilities.



## APPENDIX A

### NWS STERLING SITE INFORMATION

**MAILING ADDRESS:** National Weather Service  
Baltimore/Washington Forecast Office  
Building 24  
44087 Weather Service Road  
Sterling, VA 20166

#### CONTACTS:

Fire Weather Program Leader.....*Christopher A. Strong*  
christopher.strong@noaa.gov  
Meteorologist-in-Charge.....*Jim Travers*  
james.travers@noaa.gov

The forecast office is staffed 24 hours a day, 7 days a week throughout the year, including holidays. Forecasters are available for special forecasts or consultations, conditions permitting. No forecaster is dedicated solely to fire weather products or services and staffing is at a minimum. Under severe weather conditions, forecasters may have to attend to other priorities. Extra staffing is generally available during administration hours (8am to 4pm Monday through Friday).

#### TELEPHONE NUMBERS:

**Administrative / Forecast Operations**..... (703) 260-0105  
(Direct forecast questions to the lead forecaster)

**Severe Weather Reports**..... (800) 253-7091  
(Severe weather reports only!)

**FAX**.....(703) 260-0809

THE ABOVE NUMBERS ARE **UNLISTED**. DO NOT RELEASE THEM TO THE PUBLIC!!

Our **public access phone** number is..... (703) 260-0107

#### BALTIMORE/WASHINGTON FORECAST OFFICE INTERNET ADDRESS:

<http://www.erh.noaa.gov/lwx>





## APPENDIX B

### SURROUNDING NWS OFFICES

Wakefield NWS: Brian Hurley: *Fire Weather Focal Point (FWFP)*  
(To our Southeast) Brian.Hurley@noaa.gov  
Tony Siebers: *Meteorologist in Charge (MIC)*  
Bill Sammler: *Warning Coordination Meteorologist (WCM)*  
10009 General Mahone Hwy.  
Wakefield, VA 23888-2742  
(757) 899-0415

Blacksburg NWS: Phillip Manuel: *FWFP*  
(To our Southwest) Phillip.Manuel@noaa.gov  
David Wert: *MIC*  
Mike Emlaw: *WCM*  
1750 Forecast Dr.  
Blacksburg, VA 24060  
(540) 552-0084

Charleston NWS: Kari Fleege: *FWFP*  
(To our West) Kari.Fleege@noaa.gov  
Alan Rezek: *MIC*  
Daniel Bartholf: *WCM*  
400 Parkway Rd.  
Charleston, WV 25309  
(304) 746-0190

Pittsburgh NWS: Russell DeMaris: *FWFP*  
(To our Northwest) Russell.DeMaris@noaa.gov  
Theresa Rossi: *MIC*  
Richard Kane: *WCM*  
192 Shafer Rd.  
Moon Township, PA 15108  
(412) 262-1882

State College NWS: Bill Gartner: *FWFP*  
(To our North) William.Gartner@noaa.gov  
Bruce Budd: *MIC*  
Dave Ondrejik: *WCM*  
227 West Beaver Ave. Suite 402  
State College, PA 16801-4921  
(814) 237-1152



Mt. Holly NWS:  
(To our East) Ray Kruzdlo: *FWFP*  
Raymod.Kruzdlo@noaa.gov  
Gary Szatkowski: *MIC*  
Joseph Miketta: *WCM*  
732 Woodlane Rd.  
Mt. Holly, NJ 08060  
(609) 261-6603

Eastern Region HQ: Harvey Thurm: *Program Manager*  
Harvey.Thurm@noaa.gov  
Airport Corporate Center  
630 Johnson Ave.  
Bohemia, NY 11716  
(631) 244-0124

NWS Headquarters: Paul Stokols: *Program Leader*  
Paul.Stokols@noaa.gov  
1325 East-West Highway  
Silver Spring, MD 20910-3233  
(301) 713-1677 ext 131

NIFC at Boise ID: National Interagency Fire Center  
3833 S. Development Ave.  
Boise, ID 83705  
(208) 387-5512



## APPENDIX C

### USER CONTACTS

#### Maryland

DNR-Forest Service     Monty Mitchell: *State Fire Supervisor*  
*HEADQUARTERS*     MMitchell@dnr.state.md.us  
Maryland DNR  
580 Taylor Ave E-1  
Annapolis, MD 21401  
(410) 260-8503

Western Region     Richard Lillard: *Regional Fire Manager*  
(Garrett, Allegany,     RLillard@dnr.state.md.us  
Washington, & 3 Pershing Street  
Frederick)     Cumberland, MD 21502  
(301) 478-2976

Southern Region     John Fisher: *Regional Fire Manager*  
(Anne Arundel, JFisher@dnr.state.md.us  
Prince Georges,     DNR Forest Service  
& Lower Southern     Cedarville State Forest  
Maryland)     10201 Bee Oak Rd.  
Brandywine, MD 20613  
(301) 645-4347 x207

Central Region George Rockey: *Regional Fire Manager*  
(Carroll, Baltimore     GRockey@dnr.state.md.us  
Harford, Cecil, Public Lands & Forestry - Forest Service  
Montgomery, &     2 South Bond Street  
Howard)     Bel Air, MD 21014  
(410) 836-4551

#### Virginia

Virginia Interagency     [acting]: *Coordinator*  
Coordination Center     xxxxxxxx@fs.fed.us  
Fontaine Research Park  
900 Natural Resources Drive Suite 800  
Charlottesville, VA, 22903-0758



(434) 977-1375 ext 3450

Shenandoah                      Allen Biller: *Fire Manager*  
National Park Service      Allen\_Biller@nps.gov  
3655 US Hwy 211E  
Luray, VA 22835  
(540) 999-3441

George Washington        Greg Sanders: *Fire Manager*  
National Park Service      GSanders@fs.fed.us  
USDA Forest Service  
5162 Valley Pointe Parkway  
Roanoke, VA 24019-3050  
(540) 265-6073

## **West Virginia**

Department of    Matt Dillon: *Chief*  
Forestry                      MDillon@gwmail.state.wv.us  
Guthrie Center  
State Capitol  
Charleston, WV 25305  
(304) 558-2788

DOF District 2                Linda Carnell  
Eastern Panhandle        LCarnell@stilink.net  
Department of Forestry  
1 Depot. St.  
Romney, WV 26757  
(304) 822-4512

## **District of Columbia**

National Park Service      Don Boucher: *Chief*  
National Capitol            Donald\_Boucher@nps.gov  
Region                        Division of Ranger Services  
1100 Ohio St, Room 357  
Washington, DC 20242  
(202) 619-7039

WIMS Helpline              (800) 253-5559





## Appendix D

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### Sample Products





**For a sample Fire Weather Forecast, please see:**

**<http://www.srh.noaa.gov/data/LWX/FWFWBC>**



**For a sample Red Flag Warning, please see:**

**<http://www.srh.noaa.gov/data/AKQ/RFWAKQ>**



**For a sample AFM, please see:**

**<http://www.srh.noaa.gov/data/LWX/AFMLWX>**



## **Appendix E**

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### **National Agreement for Fire Weather Services**



**For the new National Agreement for Fire Weather Services, please go to:**

**<http://www.nws.noaa.gov/directives/010/pd01004006a.pdf>**

